

REMARKS

I. Introduction

The Office Action mailed February 18, 2009, has been carefully considered. The present Response is intended to be a complete response thereto and to place the case in condition for allowance.

II. Status of the Claims

Claims 1-20 are pending.

III. Summary of the Office Action

In the Office Action the Examiner rejected

- 1) claims 1-6 under 35 U.S.C. § 102(a) as being anticipated by Kydd (U.S. Patent No. 5,882,722); and
- 2) claims 7-20 under 35 U.S.C. § 103(a) as being obvious over Kang et al. (U.S. Patent No. 6,114,413) in view of Kydd.

IV. Arguments

Applicants respectfully traverse the rejections for the following reasons:

A. The claims are not anticipated by Kydd

Claims 1-6 stand rejected as being anticipated by Kydd. Applicants respectfully traverse the rejection on the ground that the reference fails to disclose every element of the claimed invention. In particular, Kydd fails to disclose a binder as recited in independent claim 1.

In the Office Action, the Examiner alleges that Kydd discloses “binder, such as ethyl cellulose in the composition” and cites column 5, line 34, to support this disclosure. However, Applicants respectfully submit that the disclosure of ethyl cellulose by Kydd relates to a composition of a prior art reference (U.S. Patent No. 4,186,244, the ‘244 patent hereafter) and not to the composition of Kydd. Applicants respectfully submit that to anticipate a claim, the prior art reference “must not only disclose all elements of the claim within the four corners of the document, but must also disclose those elements ‘arranged as in the claim.’” *Net Moneyin, Inc. v. Verisign, Inc.*, No. 2007-1655, page 15 (Fed. Cir. October 28, 2008) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983)). In *Net Moneyin*, the Federal Circuit held that a reference disclosing two separate protocols for processing an internet credit card transaction, and neither of those protocols, individually, contains all five elements of the claimed invention, cannot anticipate the claimed invention, even though all elements of the claimed invention are found between the two protocols. *Id.* Likewise, in this case Kydd discloses two different protocols: 1) the composition of the ‘244; and 2) his own composition. The composition of the ‘244 patent contains ethyl cellulose; however, Kydd does not disclose that his own composition contains ethyl cellulose or any other binder. Additionally, Kydd disparages the composition of the ‘244 patent averring that the conductivity of that composition “is a thousand fold less than required for practical circuits.” Column 4, lines 42-44. As such, Kydd has no intention to combine his composition with that of the ‘244 patent. Therefore, in accordance with *Net Moneyin*, Kydd cannot anticipate the present invention, because the reference fails to disclose the elements of the present invention as “arranged in the claim.”

B. The claims are not obvious over Kang et al. in view of Kydd

Claims 7-20 stand rejected as being obvious over Kang et al. in view of Kydd.

Applicants respectfully traverse the rejection on the ground that the references, taken alone or in combination, fail to disclose every element of the claimed invention. In particular, the references fail to disclose a sintering step.

Applicants respectfully clarify the difference between “sintering” and “melting.” “Sintering” is used to describe a process that forms a coherent mass from the particles using heat, but without melting. On the other hand, “melting” refers to a process that liquefies the particles. Thus, sintering differs from melting in that it does not liquefy the particles. Kang et al. do not disclose a sintering step. The process of Kang et al. contemplates a melting process, similar to that of soldering. In column 5, lines 11-21, Kang et al. state as follows:

The lamination is performed at a temperature slightly above the melting point of Sn, for example, 250°C, at a pressure of 25 psi.

.... The paste was disposed between surfaces 40 and 42 and heated to the reflow temperature, which caused conductive coating 32 of a particle 34 to fuse to conductive coating 32 of an adjacent particle 34 to form a bond 44 therebetween. Additional metallurgical bonds 46 were also formed between contact surfaces 42 and the particles adjacent to these surfaces.

(Emphasis added). Thus, the process of Kang et al. melts (heating above the melting point) the metal particles to “reflow” then to form a bond. That process cannot be considered sintering which does not melt the particles.

The Examiner relies on Kydd to disclose the use of particles less than 500 nm. *See* Office Action, page 4. However, because that teaching still does not cure the deficiency of Kang et al. (discussed above), the combination of the references still does not render the present invention obvious.

V. Conclusion

Applicants have responded to the Office Action mailed February 18, 2009. All pending claims are now believed to be allowable and favorable action is respectfully requested.

In the event that there are any questions relating to this Response or to the application in general, it would be appreciated if the examiner would telephone the undersigned attorney concerning such questions so that the prosecution of this application may be expedited.

Please charge any shortage or credit any overpayment of fees to BLANK ROME LLP, Deposit Account No. 23-2185 (124617-00118). In the event that a petition for an extension of time is required to be submitted herewith and in the event that a separate petition does not accompany this response, Applicants hereby petition under 37 C.F.R. 1.136(a) for an extension of time for as many months as are required to render this submission timely.

Any fees due are authorized above.

Respectfully submitted,

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